

REMARKS

Claims 1-19 currently remain in the application. Claims 2 and 3 are herein amended.

In response to the document entitled Amendment "E" After Final Action mailed December 30, 2009, the Examiner stated in said Advisory Action that the proposed amendment therein would not be entered because they raised new issues that would require further consideration and/or search. The present RCE is therefore being submitted to have such consideration and/or search to be effected. Thus, the claims section is herein amended in the same way presented in said Amendment "E" After Final Action and applicant is herein presenting the same argument as before against the Examiner's rejection in said Final Action. For the convenience of the Examiner, applicant's argument presented in the REMARKS section of said Amendment "E" After Final Action is reproduced hereinbelow.

Claims 1-19 were rejected under 35 U.S.C. 102 as anticipated by, or under 35 U.S.C. 103 as obvious over Shane. In Paragraph 11 of the Official Letter, the Examiner admitted that Shane does not teach a thermal conductivity of 350 W/(mK) which is presented as characterizing the present invention but stated that the issue is whether the method of making taught by this reference would produce an expanded graphite that possesses the desired properties claimed by applicant (lines 6-8 of Paragraph 11). Along this line, the Examiner suggested a presentation by applicant of any evidence such as experimental data which proves the method taught by this reference would not produce expanded-graphite with the desired properties claimed by applicant (lines 12-14). As the Examiner might imagine, applicant found it highly impractical to carry out such an experiment to gather evidential data as suggested by the Examiner. Applicant, therefore, argues instead as follows.

It is to be noted that Shane discloses 147 lbs/ft^3 (or 2.35 mg/ms) as the theoretical maximum density (column 4, line 42) and 137 lbs/ft^3 (or 2.19 mg/ms) as the maximum density of continuously produced graphite sheet (column 13, line 38) but only $150 \text{ B.t.u.-ft/hr.ft}^2\text{-}^\circ\text{F}$ (or $259.6 \text{ W/(m}\cdot\text{K)}$) as the thermal conductivity in surface direction (column 13, line 22). In other words, Shane discloses volume densities comparable to those disclosed in the instant application but only thermal conductivities that are at most about 2/3 of what is required according to the

present invention. This seems to be clearly indicative of the inability by Shane's method of producing sheets having physical properties that are comparable to those being claimed in the present application. It is therefore believed that Shane cannot predicate the Examiner's rejection either on the ground of obviousness or on the ground of anticipation.

Claims 2 and 3 are herein amended to remove the limitation that the sheet according to this invention should necessarily be obtained by heat treatment and by expanding graphite comprising natural graphite or kish graphite, keeping only the limitations regarding the thermal conductivity and the arithmetic mean surface roughness (for claim 2) or the difference between the highest and lowest values of local thermal conductivities (for claim 3).

In summary, it is believed that the present Amendment is totally responsive to the Office Action and hence that the application is now in condition for allowance.

Respectfully submitted,
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